



Troubleshooting Guide

Problem

Solution*

Single LED is off or out of sync with the other LEDs.

Most likely a cable problem;
1.) Find problem LED and the attached cable.
2.) Unplug cable and replace with new cable.

Many LEDs are off or out of sync.

Most likely a connector issue.
1.) Find first cable in daisy chain where cables are having a problem.
2.) Inspect connectors where problem occurred.
3.) Disconnect and reconnect connector where problem occurred.
4.) Replace cable where problem occurred if necessary.

None of the LEDs turn on.

Most likely the power going into the LED controller.
1.) Check fuse located on the red wire of the LED control box.
2.) Check the 12 VAC going into the controller from the spa pack.
3.) If the stereo power supply is used to power the LED control box then check the 12 VDC from the stereo power supply.

All LEDs turn on but one color doesn't light.

Most likely a shorted cable.
1.) Disconnect the cables one at a time starting at the open end of the daisy chain.
2.) Check LEDs after disconnecting each cable. If LEDs start to work properly then the last cable removed is the bad cable. Replace this cable.

* If the above actions do not resolve the issue the next step is to replace the Controller.

Fuse replacement for 701678-DLO is Digi-Key PN F2397-ND, for 701712-DLO use Digi-Key F121-ND.

Controller Software Functions (Control 40)

The LED Controller color schemes can be selected via the on-off button on the top-side control panel. These are the color sequences.

- | | | | |
|--|------------|----------------|--------------------|
| 1) Color wheel – slowly changes colors | 4) Magenta | 7) Green | 10) Strobe - White |
| 2) White | 5) Blue | 8) Red | |
| 3) Cyan | 6) Yellow | 9) Color Flash | |

Spa Lighting Products

LiquaLED Bullet Lights

Item Description	Single-LED	Dual-LED	Quad-LED	Quad-LED 38	Quad-LED XL	Six-LED
Part Number	701564-1-DLO	701564-2-DLO	701564-4-DLO	701564-4-DLO-38	701564-4-DLO-XL	701564-6-DLO
# LED's per cable	1	2	4	4	4	6
Typical Maximum Current	50 mA	40 mA	80 mA	80 mA	80 mA	120 mA
Cable Length (connector-to-connector)	50"	50"	50"	76"	76"	96"
Outer Bullet Light Wire Length	25"	25"	25"	25"	36"	52"
Inner Bullet Light Wire Length	25"	25"	17"	17"	24"	48"

LiquaLED Cluster Main Lights

Item Description	21-LED Cluster	14-LED Cluster	7-LED Cluster
Part Number	701570-21-DLSO	701570-14-DLSO	701570-7-DLSO-S
LEDs per Cluster	21	14	7
Typical Max Current	240 mA	160 mA	80 mA
Diameter of PCB	2.9"	2.0"	1.3"
Fits Lens Size (Approx.)	~ 5.0"	3.0" – 5.0"	2.0" – 5.0"
Cable Length (connector-to-connector)	36"	36"	36"

LiquaLED Controllers

Item Description	Control 40	Multi-Zone Controller
Part Number	701678-DLO	701898-DLO
Max # LEDs (Not including clusters)	40	100
Required Input Voltage - AC	12V AC from Spa Pack	12V AC from Spa Pack
Optional Input Voltage - DC	No External DC Supply Required	12V DC from External Supply (>1 Amp)
Typical Max Output Current / Power	1 Amp / 12 Watts	2 Amps / 24 Watts
Controller Dimensions	3.25" X 2.75" X .75"	2.90" X 4.38" X 1.00"
On/Off Control	Spa pack light on/off switch on top-side control panel	Momentary Selections on top-side Spa Pack Light Control

UltraBRITE Integrated Controllers

Item Description	UltraBRITE LED Light	UltraBRITE-Mini LED Light
Part Number	701739-SAO	701861-9-P (bi-pin)
LEDs per Cluster	10	9 (5mm)
Input Voltage	12V AC	12V AC
Typical Max Current	240 mA	200 mA
Diameter of PCB	1.57"	1.3"
Fits Lens Size (Approx.)	~ 2.0" to 5.0"	~ 2.0" to 5.0"
Lamp Depth	1.44"	1.75"

Jumper Cables

Item Description	2' Jumper Cable	5' Jumper Cable
Part Number	410117-24-O	410117-60-O
Cable Length (connector-to-connector)	24 inch	60 inch

Spa Pack Connector Adapters

Part Number	410114	410119	410120
Connectors	1/2" QC Terminal Male to MLX Male	1/2" QC Terminal Female to MLX Female	3-Prong MTA to MLX Female

LiquaLED Accent Lights

Item Description	7.5' Perimeter String Light	RGB Skirt Light	RGB Strip Light (Short)	RGB Strip Light (Long)
Part Number	701755-MM-18-DLO	701787	701963-RGBSX1	701963-RGBLX1
# Modules	4 Modules per String	1 each	1 each	1 each
# LEDs	2 per module	3	3	4
Typical Maximum Current	280 mA per String	60 mA	41 mA	68 mA
Cable Length (connector-to-connector)	7 1/2' Total Cable	36" Cable	6"	6"

Bullet Light Lenses

Item Description	Standard	Wide Flange	Wide Flange Faceted	Large Round	Nut	O-rings
Part Number	400372	400372-W	400372-WF	400372-RND	400388	400417 400510

Power Supplies

Item Description	Self-Contained 20	Modular 60
Part Number	701680	701507-MODW
Input Voltage	120/240 V AC	120/240 V AC
Input Current	.30 Amps	1.0 Amps
Output Voltage	12VDC	12VDC
Output Current	1.67 Amps	5.0 Amps
Output Power	20 Watts	60 Watts
Dimensions	3.75" x 1.6" x 1.0"	9.0" x 2.5" x 2.0"